

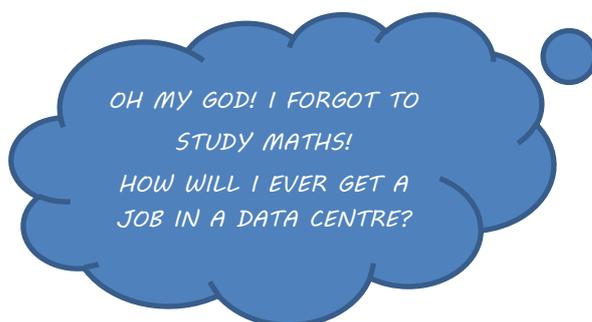
## Careers in the Digital Economy

### Data Centre Professionalism Group Communication

#### How to keep your options open

We live in a changing world, and one that is becoming increasingly digitised. It is predicted that at least 50% of the jobs that will be available in the data centre sector in 20 years time do not yet exist – they will relate to technologies that have not yet been invented, to systems that have not yet been deployed and to products and offerings that have not yet been developed. So how on earth do we know what subjects we should study and what qualifications will be needed?

The truth is that however fluffy and cloud-like our digital world looks from the outside, its core functions are handled in data centres and are firmly underpinned by STEM skills – Science, Technology, Engineering and Maths. In the UK the education system tends to encourage specialisation at a relatively young age compared to other countries. The disadvantage is that not many young people know what they want to do when they are older and there is a risk that they can limit their options by dropping subjects that they might later need.



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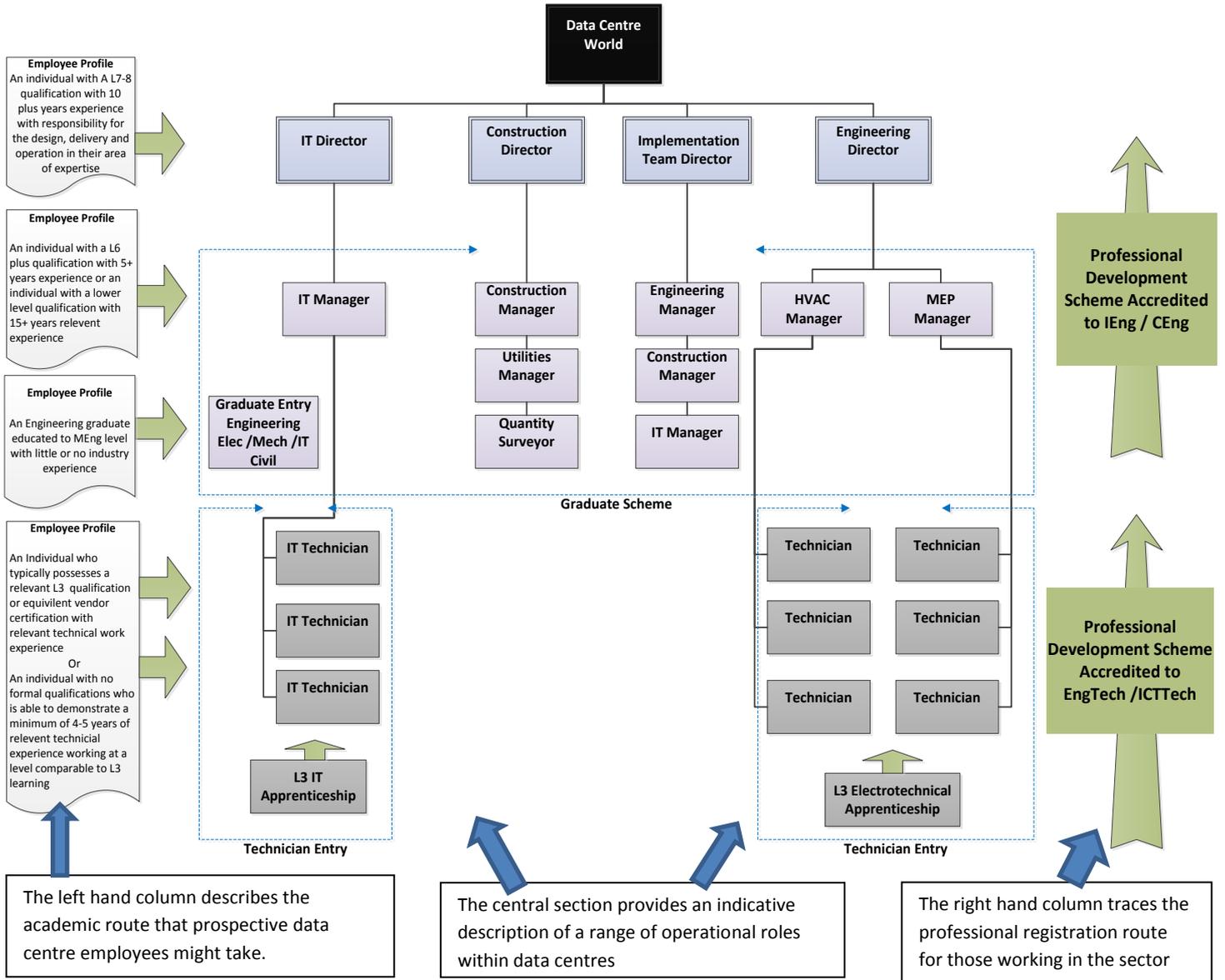
#### Keeping your options open

The data centre sector comprises a unique mixture of mechanical, heavy engineering, communications, ICT and building management functions. The majority of the roles within data centres are therefore technical, but there is a very wide variety of opportunities because of the way that data centres bring together multiple disciplines. So it is not necessary to follow the kind of specific vocational route that would be needed were you to become a doctor, but there are some pre-requisites.

- At GCSE you need maths and ideally a technology or science based subject like physics or computer science. With relevant GCSEs you can enter the sector as an L3 apprentice.
- At A level, a technology or science based (STEM) subject tends to be a core requirement. While your opportunities are broadened if you retain maths, it is not a pre-requisite for a career in the sector. You may enter the sector through an apprenticeship route or directly.
- At graduate or post-graduate level you have a choice of disciplines and you would enter the sector as a graduate.

## Accessing careers in the sector

The image below, from the Institution of Engineering and Technology, sets out the pre-requisites at each stage, and identifies the entry points to the industry. Within the sector there is a well established route for progression to chartered status, so there are multiple routes both in terms of career disciplines and career development.



Comparison of different qualification levels (Source: [www.gov.uk](http://www.gov.uk), IET and BCS)

| Level 1   | Level 2  | Level 3  | Level 4  | Level 5   | Level 6   | Level 7   | Level 8   |
|---|--|--|--|---|---|---|---|
| First certificate<br>GCSE -D,E,F,G<br>Level 1 award<br>Level 1 cert.<br>Level 1 diploma<br>Level 1 ESOL<br>Level 1 essential skills<br>Level 1 functional skills<br>Level 1 NVQ<br>Music grades 1 - 3 | CSE - grade 1<br>GCSE A*,A,B, C<br>Intermediate apprenticeship<br>Level 2 award<br>Level 2 cert<br>Level 2 diploma<br>Level 2 ESOL<br>Level 2 essential skills<br>Level 2 functional skills<br>Level 2 national cert.<br>Level 2 national diploma<br>Level 2 NVQ<br>Music grades 4, 5<br>O level A, B, C | A level A - E<br>Access to HE diploma<br>Advanced apprenticeship<br>Applied general<br>AS level<br>Intl Baccalaureate diploma<br>Level 3 award<br>Level 3 certificate<br>Level 3 diploma<br>Level 3 ESOL<br>Level 3 national cert.<br>Level 3 national diploma<br>Level 3 NVQ<br>Music grades 6, 7, 8<br>Tech level – Eng Tech, ICT Tech | CertHE<br>Higher apprenticeship<br>HNC<br>Level 4 award<br>Level 4 certificate<br>Level 4 diploma<br>Level 4 NVQ | DipHE<br>Foundation degree<br>HND<br>Level 5 award<br>Level 5 certificate<br>Level 5 diploma<br>Level 5 NVQ | Degree apprenticeship<br>Degree with honours<br>Graduate certificate<br>Graduate diploma<br>Level 6 award<br>Level 6 certificate<br>Level 6 diploma<br>Level 6 NVQ<br>Ordinary degree | Integrated master's degree, eg MEng<br>Level 7 award<br>Level 7 certificate<br>Level 7 diploma<br>Level 7 NVQ<br>Master's degree MA/MSc<br>Postgraduate certificate<br>PGCE<br>Postgraduate diploma<br>CEng | Doctorate, eg PhD or DPhil<br>Level 8 award<br>Level 8 certificate<br>Level 8 diploma |

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